Climate Change and Human Health Literature Portal

National Institute of
Environmental Health Sciences

Thermal stress associated mortality risk and effect modification by sex and obesity in an elderly cohort of Chinese in Hong Kong

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Abstract:

We assessed the effects of apparent temperature (AT) on mortality and the effect modifications attributable to individual characteristics in Hong Kong with subtropical climate conditions. Two datasets are used for analyses: one from mortality data of the general elderly population in 1998-2009; the other from an elderly cohort with 66,820 subjects recruited in 1998-2001 with mortality outcomes followed up until 2009. We found that AT below 20.8 degrees C was associated with an increase in mortality risk of 1.99% (95% confidence interval: 0.64%, 2.64%) for all causes, 2.48% (0.57%, 4.36%) for cardiovascular disease, and 3.19% (0.59%, 5.73%) for respiratory disease for every 1 degrees C decrease in AT over the following 3 days. The associations were modified by sex and body mass index, in particular stronger associations were observed for females and for obese subjects.

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Resource Description

Exposure : ☒

weather or climate related pathway by which climate change affects health

 Meteorological Factors, Temperature

   Temperature: Fluctuations

Geographic Feature: ☒

resource focuses on specific type of geography

 Urban

Geographic Location: ☒

resource focuses on specific location

 Non-United States

   Non-United States: Asia

     Asian Region/Country: China

       ☐

Health Impact: ☒

specification of health effect or disease related to climate change exposure

Cardiovascular Effect, Diabetes/Obesity, Infectious Disease, Morbidity/Mortality, Respiratory Effect

Infectious Disease: Airborne Disease

Airborne Disease: Influenza

Population of Concern: A focus of content

Population of Concern: ☒

populations at particular risk or vulnerability to climate change impacts

Elderly

Other Vulnerable Population: Overweight/Obese; People with a low education level; Smokers; Low physical activity; Females

Resource Type: ☒

format or standard characteristic of resource

Research Article

Timescale: ☒

time period studied

Time Scale Unspecified